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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,165	11/29/2000	Jose Geraldo Furtado Ramos	2764-34	8558

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EXAMINER	
LEUNG, JENNIFER A	
ART UNIT	PAPER NUMBER
1764	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/725,165	RAMOS ET AL.	
	Examiner	Art Unit	
	Jennifer A. Leung	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment submitted on November 1, 2006 has been received and carefully considered. Claim 2 has been cancelled. Claims 1 and 3-6 are under consideration.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al. (US 3,821,103) in view of Jones (US 2,634,191) and Perry's Chemical Engineering Handbook, 7th edition (FIG. 17-4, Fluidization regimes).

Regarding claim 1, Owen et al. (FIG. 1; column 3, line 65 to column 4, line 30; column 5, lines 19-35) discloses an apparatus comprising a primary cyclone **65** and a secondary cyclone **67**, wherein a cyclone separator leg joins the lower end of the leg **69** of the secondary cyclone **67** and the leg **71** of the primary cyclone **65** to form a single primary and secondary cyclone leg complex where solids collected by both cyclones are combined (see FIG. 1), the termination of the cyclone separator leg being immersed in a fluidized bed of particles **73**.

Owen et al. is silent as to the cyclone separator leg terminating distally in a radius-curved single leg termination that is devoid of movable sealing parts. (Although not specifically described by Owen et al., it appears from the illustration of FIG. 1 that the cyclone separator leg does, however, terminate distally with *some* sort of dip-leg sealing arrangement. The Examiner takes Official Notice that such illustration is commonly used in the art to suggest dip-leg sealing arrangements).

Jones (FIG. 1) teaches a cyclone separator leg (i.e., dip-leg **16**) terminating distally in a radius curved termination (i.e., bend **20**) that is devoid of movable sealing parts (i.e., During normal operation, the dip-leg **16** is open at its lower end and thus devoid of movable sealing parts. The seals taught by Jones are only present during the loading of the vessel or start-up. *In particular*, Jones teaches a seal wherein, "the seal itself may be composed either partly or wholly of material which fill fuse or otherwise rupture or disintegrate at the desired temperature [during normal operation]." See column 2, lines 49-55; and generally, column 2, lines 24-55).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the cyclone separator leg in the apparatus of Owen et al. such that the leg terminated distally in a radius curved single leg termination that was devoid of movable sealing parts, on the basis of suitability for the intended use and absent showing any unexpected results thereof, because the radius curve acts as a baffle against bubbles of air rising through the catalyst bed, as taught by Jones (column 4, lines 36-39).

Please note that the newly added limitation of a given level of the fluidized bed of particulates relative to the junction point of the dip leg adds no further patentable weight to the claim because the level of the fluidized bed is merely a recitation with respect to the manner in which the claimed apparatus is intended to be operated, e.g., a process limitation. As is well know in the art of fluidization, for a given amount of solid particulates, the level of the fluidized bed of particulates may vary widely, as a function of the fluidizing gas velocity. Please note the Regime Diagram, attached below. (FIG. 17-4 is taken from Perry's Chemical Engineering Handbook, 7th edition).

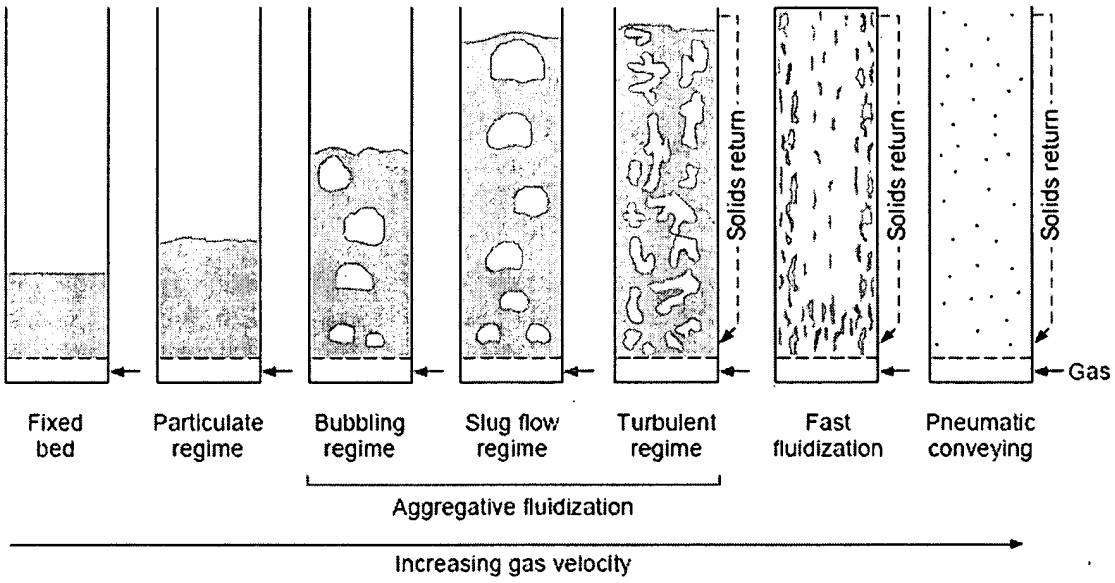


FIG. 17-4 Fluidization regimes. [*Adapted from Grace*, Can J. Chem. Eng., *64*, 353–363 (1986).]

Regarding claim 6, as shown in FIG. 1 of Owen et al., the junction of the leg **71** of the primary cyclone **65** and the leg **69** of the secondary cyclone **67** lies on the side opposite a distal end of the cyclone leg termination and higher than the distal end by a distance. Owen et al., however, is silent as to precise value of the distance being shown, relative to the diameter of the leg **71** of the primary cyclone **65**. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select an appropriate distance (such as the recited range) relative to the diameter of the leg **71** of the primary cyclone **65** in the modified apparatus of Owen et al., on the basis of suitability for the intended use and absent showing any unexpected results, because changes in dimension merely involves ordinary skill in the art. *In re Rose*, 220 F.2d 459, 463, 105 USPQ 237, 240 (CCPA 1955), and where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller, 105 USPQ 233.*

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al. (US 3,821,103) in view of Jones (US 2,634,191) and Perry's Chemical Engineering Handbook, 7th edition (FIG. 17-4, Fluidization regimes), as applied to claim 1 above, and further in view of Danielsen et al. (U.S. 4,996,028).

The collective teaching of Owen et al. and Jones is silent as to the specifically recited ratio of radius-to-diameter for the single leg termination. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select a ratio of 1.0 to 3.0 for the ratio of radius-to-diameter for the single leg termination in the modified apparatus of Owen et al., since the specific ratio is not considered to confer patentability to the claim since the precise ratio would have been considered a result effective variable by one having ordinary skill in the art. Accordingly, one having ordinary skill in the art would have routinely optimized the ratio of radius-to-diameter in order to obtain a desired solids level within the cyclone diplegs, *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Danielsen et al. is further provided to evidence the conventionality of providing a single leg termination to the distal end of a cyclone dipleg according to the recited configuration, wherein, "... the radius of curvature of the tubular body portion **25** preferably is in the range of from *about 1 1/2 times to about 2 1/2 times* the diameter of the tubular body portion **25**." Maintaining a pre-determined, sufficient, radius of curvature increases, under conditions of use, the stability of the dipleg solids level over that of diplegs having straight run tubular body portions, as taught by Danielson. (column 3, lines 2-10; FIG. 1-2).

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al. (US 3,821,103) in view of Jones (US 2,634,191) and Perry's Chemical Engineering Handbook, 7th edition (FIG. 17-4, Fluidization regimes), as applied to claim 1 above, and further in view of Luckenbach (U.S. 4,074,691).

Regarding claim 4, the collective teaching of Owen et al. and Jones is silent as to the radius curve termination of the cyclone leg (e.g., the bend **20** shown in FIG. 1 of Jones) being constructed from a succession of straight tube sections arranged in an arcuate array. In any event, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to select such a construction for the radius curve termination in the modified apparatus of Owen et al., on the basis of suitability for the intended use and absent showing any unexpected results thereof, because the substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). To evidence the conventionally of such a leg termination construction, Luckenbach (FIG. 1) teaches a cyclone comprising a dipleg **16** having a leg termination constructed of a pair of interconnected angularly disposed conduit members **12** and **14**, the upper one of which is lineal and connected with the lower vertical portion of the cyclone dipleg **16**.

Regarding claim 5, as modified above, the radius curve at the end of the cyclone leg in the modified apparatus of Owen et al. inherently directs the flow of descending mass of solids into a plane orthogonal to the ascending gaseous flow, by virtue of the total angle subtended by the radius curve.

Response to Arguments

5. Applicant's arguments filed November 1, 2006 have been fully considered but they are not persuasive.

Comments regarding the rejection of claims 1 and 6 under 35 U.S.C. 103(a) as being unpatentable over Owen et al. in view of Jones and Perry's Chemical Engineering Handbook, 7th Edition.

Beginning on page 10 (first paragraph), Applicants argue,

> "... The Examiner has concluded that dip legs of both cyclones were "combined" induced by Figure 1. Following the information of Figure 1, however, one can also conclude that the Owen inventive concept is different from applicant's because the junction point of dip leg is above the fluid bed."

The Examiner respectfully disagrees and maintains that the modified apparatus of Owen et al. structurally meets the claims. The newly added limitation of a given level of the fluidized bed of particulates relative to the junction point of the dip leg adds no further patentable weight to the claim because the level of the fluidized bed is merely a recitation with respect to the manner in which the claimed apparatus is intended to be operated, e.g., a process limitation. As is well know in the art of fluidization, for a given amount of solid particulates, the level of the fluidized bed of particulates may vary widely, as a function of the fluidizing gas velocity. Please note the Regime Diagram, attached below (FIG. 17-4 is taken from Perry's Chemical Engineering Handbook, 7th edition).

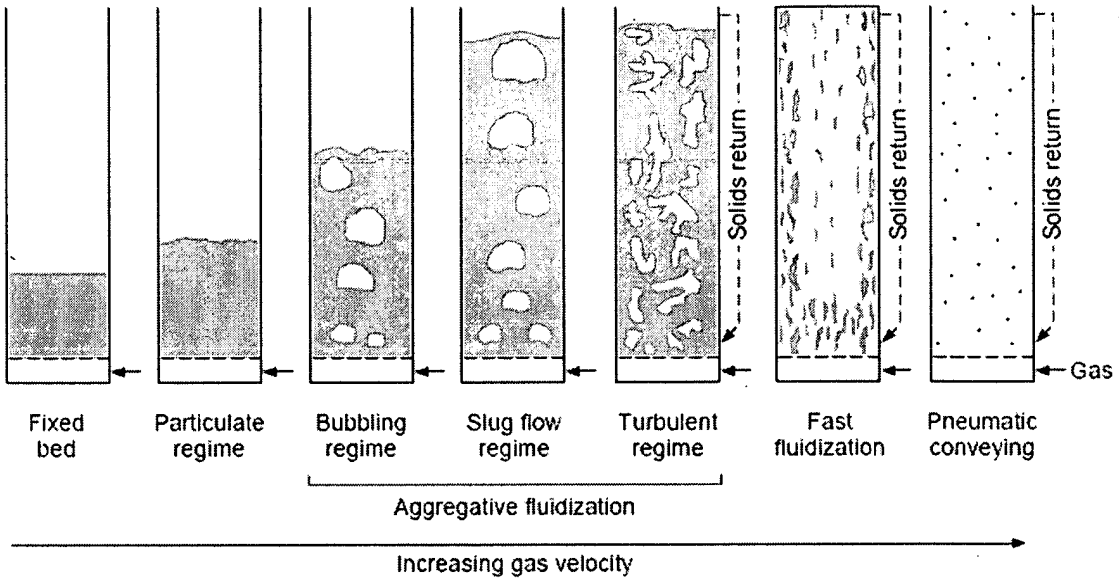


FIG. 17-4 Fluidization regimes. [*Adapted from Grace*, Can J. Chem. Eng., *64*, 353–363 (*1986*).]

As stated in MPEP 2114, the manner of operating a device does not differentiate the device from the prior art. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (The preamble of claim 1 recited that the apparatus was "for mixing flowing developer material" and the body of the claim recited "means for mixing ..., said mixing means being stationary and completely submerged in the developer material". The claim was rejected over a reference which taught all the structural limitations of the claim for the intended use of mixing flowing developer. However, the mixer was only partially submerged in the developer material. The Board held that the amount of submersion is immaterial to the structure of the mixer and thus the claim was properly rejected.)

Applicants (page 10, second paragraph) further argue,

> "The Examiner has considered that it is the intention of Owen to join dip legs of two cyclones in a unique dip leg immersed into fluid bed. According to the description of Owen, cyclones in series connected to the regeneration riser are necessary to promote the separation, but it is not clearly described that there exists a junction of the dip leg of a primary cyclone with dip leg of a secondary cyclone to form a unique complex dip leg for solids collection."

As best understood, it appears that Applicants are arguing that the reference of Owen et al. fails to disclose the instantly claimed junction because the illustrated dip leg junction for the primary and secondary cyclones in Figure 1 of Owen et al. has not been further described within the specification portion of the reference. This is not found persuasive. As stated in MPEP 2125,

> Drawings and pictures can anticipate claims if they clearly show the structure which is claimed. *In re Mraz*, 455 F.2d 1069, 173 USPQ 25 (CCPA 1972). However, the picture must show all the claimed structural features and how they are put together. Jockmus v. Leviton, 28 F.2d 812 (2d Cir. 1928). The origin of the drawing is immaterial. For instance, drawings in a design patent can anticipate or make obvious the claimed invention as can drawings in utility patents. When the reference is a utility patent, it does not matter that the feature shown is unintended or unexplained in the specification. The drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art. *In re Aslanian*, 590 F.2d 911, 200 USPQ 500 (CCPA 1979).

In the instant case, the Examiner maintains that one of ordinary skill in the art would come to the same conclusion that a junction between dip leg **71** of primary cyclone **65** and dip leg **69** of secondary cyclone **67** is shown in Figure 1 of Owen et al.

Applicants (page 10, third paragraph) further argue,

> "Concerning the statement that "the cyclone leg in modified apparatus of Owen inherently directs the flow of descending mass of solids into a plane orthogonal to the

ascending gaseous flow, by virtue of the total angle subtended by radius curve", this is not correct, since the representation form shown in Owen's Figure 1 points to the same direction of the legs "junction"."

The Examiner respectfully disagrees and reiterates that the modified apparatus of Owen et al. meets the claim limitation. As stated in the rejection, the straight leg termination as show in Owen's Figure 1 was modified by the teachings of Jones to comprise a radius curved termination, similar to bend **20** shown in FIG. 1 of Jones. When modified, the cyclone leg will direct the flow of a descending mass of solids into a plane orthogonal to the ascending gaseous flow, by virtue of the total angle subtended by the radius curve. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicants (page 10, last paragraph, to page 11, second to last paragraph) appear to argue that Owen et al. fails to meet the claims because the reference is silent as to the specifically claimed distance between the junction and discharge end of the cyclone dipleg. This is not found persuasive. The Examiner understands that Owen et al. does not expressly state a specific distance between the junction and discharge end of the cyclone dipleg. However, please note that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select an

appropriate distance (such as the recited range) relative to the diameter of the leg **71** of the primary cyclone **65** in the modified apparatus of Owen et al., on the basis of suitability for the intended use and absent showing any unexpected results, because changes in dimension merely involves ordinary skill in the art. *In re Rose*, 220 F.2d 459, 463, 105 USPQ 237, 240 (CCPA 1955), and where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller, 105 USPQ 233.*

Applicants (beginning at page 11, last paragraph, to page 12, second paragraph) argue,

> "... Jones does not teach the combination claimed devoid of movable sealing parts. Quite the contrary, Jones' invention specifically provides for a mechanical closure on a dip leg that is selectively released and, thus, expressly teaches a movable sealing part.
>
> The Examiner asserts that Jones' sealing plate is only present when catalyst is introduced and is only temporary and will be removed during operation by the presence of a weight to pull a metal plate out of position or by forming the sealing means from a material that will partly or wholly fuse or rupture or disintegrate. However, the Examiner has by this admission acknowledged that Jones does teach a mechanical sealing part for the distal end of his dipleg and does teach that at least a part of the mechanical closure is movable. As such, Jones does not anticipated a distal termination that is devoid of movable sealing parts. Jones invention expressly provides for a mechanical closure placed on the dipleg and, thus, the invention is not anticipated. Indeed, it would contrary to Jones invention to provide no sealing part."

The Examiner respectfully disagrees and maintains that the radius-curved termination of Jones meets the instantly claimed limitation of a termination that is "devoid of movable sealing parts." Jones discloses that *during the state of final and intended operation*, the lower end of the dipleg is completely open to permit the return of catalyst from the cyclones to the fluid bed (e.g., being

that the sealing means has disintegrated or has been completely removed upon reaching the operating temperature; see column 2, lines 24-55). Thus, *during the state of final and intended operation*, the dipleg is devoid of movable sealing parts, and as such, the radius-curved termination of Jones structurally meets the claims.

Furthermore, Jones specifically distinguishes his invention from the undesirable, mechanical-type or movable sealing parts as argued by Applicants. In particular, Jones states in column 2, lines 9-18,

> "Although dampers, operated by distant control from outside the vessel, have been used to close the dip-legs during the filling operation, the controls have a tendency to jam, the control rods require packing glands in the vessel walls, and the dampers even when open react and undesirable restriction to the normal flow of solids in the dip-legs under operating condition."

Applicants (page 12, third paragraph) argue,

> "... it would not have been obvious to simply eliminate the sealing means taught by Owen and provide the termination specifically recited in applicant's claims. Jones teaches a movable sealing means and thus does not meet the limitation of applicant's claim 1 even if combined with Owen..."

The Examiner respectfully disagrees. As admitted in the record, Applicants have stated that the graphic representation shown at the end of the dipleg in FIG. 1 of Owen et al. normally corresponds to a mechanical type sealing means, such as a trickle valve (see page 10, third paragraph, of the response). One having ordinary skill in the art at the time the invention was made would have been motivated to provide the dipleg termination as taught by Jones for the dipleg termination in the apparatus of Owen et al., because the radius curve acts as a baffle against bubbles of air rising through the catalyst bed, as taught by Jones (column 4, lines 36-39),

and furthermore, the termination as taught by Jones is an improvement over conventional mechanical-type or movable sealing parts, such as trickle valves, since "[a]lthough dampers, operated by distant control from outside the vessel, have been used to close the dip-legs during the filling operation, the controls have a tendency to jam, the control rods require packing glands in the vessel walls, and the dampers even when open react and undesirable restriction to the normal flow of solids in the dip-legs under operating condition." (see column 2, lines 9-18). And as stated above, the radius-curved termination as taught by Jones DOES meet the structural limitations of claim 1, *during its state of final and intended operation.*

Comments regarding the rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over Owen et al. in view of Jones and Perry's Chemical Engineering Handbook, 7th Edition, as applied to claim 1, and further in view of Danielson et al.

On page 13 (fourth to sixth paragraphs), Applicants argue,

> "... The Examiner's further reliance on Danielsen does not overcome the deficiencies of Jones noted above. In fact, Danielsen also teaches away from the invention by providing a movable sealing part at the distal end of the leg structure."

The Examiner respectfully disagrees. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, Danielsen et al. was merely relied upon to teach the conventionality of selecting the claimed ratio of radius/diameter for the radius curve of the dip leg termination.

Comments regarding the rejection of claims 4 and 5 under 35 U.S.C. 103(a) as being unpatentable over Owen et al. in view of Jones and Perry's Chemical Engineering Handbook, 7th Edition, as applied to claim 1, and further in view of Luckenbach et al.

On page 13 (second to last paragraph) to page 14 (second paragraph), Applicants argue,

> "... The Examiner's further reliance on Luckenbach does not overcome the deficiencies of the Owen/Jones combination. In fact, Luckenbach also teaches away from the claimed invention because Luckenbach discloses movable sealing parts in direct contradiction to the combination claimed in applicant's claim 1 and the claims dependent therefrom.
>
> ...Luckenbach does not teach that his inclined part is formed from a series of straight pipe section; only a single pipe section is shown forming this component. Likewise, Luckenbach provides no teaching or suggest whatsoever regarding using straight pipe sections to form a radius curve. In fact, if Luckenbach's teachings were followed in Owen/Jones, then Owen/Jones would provide a single straight segment at an incline as depicted in Luckenbach."

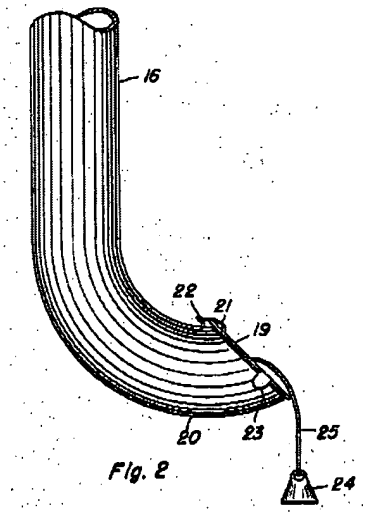
The Examiner respectfully disagrees. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Lastly, on page 13 (third paragraph), Applicants argue,

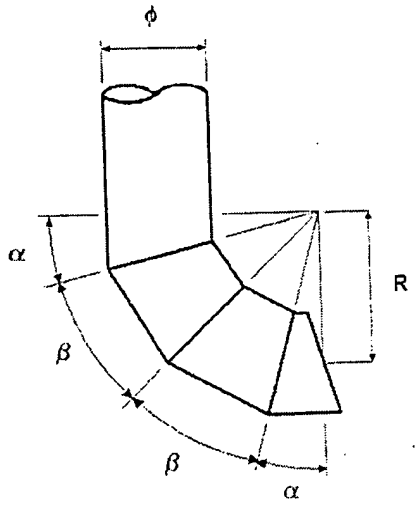
> "It is further respectfully noted that claim 5 provides that the succession of straight tube sections directs the mass flow against phase particles in a plane orthogonal to the ascending gas flow. This is not true of Jones which clearly direct mass flow at an acute angle to and in the same direction as the gas flow... Luckenbach also fails to teach or suggest directing flow in a direction orthogonal to the gas flow because Luckenbach

teaches mass flow directed downwardly at an acute angle to and in the opposite direction from the gas flow."

The Examiner respectfully disagrees. It is unclear as to how the radius-curved termination as taught by Jones would differ in function from the radius-curved termination as claimed by Applicants because it appears that the angle of both terminations is essentially the same (please note the attached figures below).



JONES' radius-curved termination



APPLICANTS' radius-curved termination

Hence, both the radius-curved terminations of Jones and of Applicants should inherently function similarly or identically, by directing a descending mass flow of dense phase solids into a plane orthogonal to an ascending gaseous flow.

With respect to Applicant's comments on Luckenbach et al., please note that the Luckenbach et al. reference was merely relied upon to illustrate the conventionality of constructing an angular termination from a succession of straight pipe segment. Luckenbach et al., however, was not relied upon to teach a specific angle for the radius-curved termination.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action..

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer A. Leung
January 19, 2007 JAL

Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700